

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- **BLACK BORDERS**
- **TEXT CUT OFF AT TOP, BOTTOM OR SIDES**
- **FADED TEXT**
- **ILLEGIBLE TEXT**
- **SKEWED/SLANTED IMAGES**
- **COLORED PHOTOS**
- **BLACK OR VERY BLACK AND WHITE DARK PHOTOS**
- **GRAY SCALE DOCUMENTS**

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



**UNITED STATES PATENT AND TRADEMARK OFFICE**

*Ans*  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/429,080	10/29/1999	IDESAWA MASANORI	1794-0123P	5498

7590 09/12/2003

BIRCH STEWART KOLASCH & BIRCH LLP  
PO BOX 747  
FALLS CHURCH, VA 220400747

EXAMINER

MEYER, DAVID C

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/429,080	MASANORI ET AL.
	Examiner David C. Meyer	Art Unit 2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 29 October 1999.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-4 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) \_\_\_\_\_ is/are rejected.

7) Claim(s) 1-4 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 29 October 1999 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	6) <input type="checkbox"/> Other: _____.

**DETAILED ACTION**

***Ex parte Quayle***

This application is in condition for allowance except for the following formal matters:

Both the specification and claims are objected to for minor informalities. Although the composition and function of the instant invention can be gleaned from the application, the specification and claims are grammatically cumbersome, possibly because they are a translation of a Japanese priority document. General clarification, particularly of the claims, is required.

The examiner offers the following as examples of places where clarification and correction are needed:

Throughout the specification, dividing has been misspelled as "deviding".

In the specification, page 2, line 8 (and elsewhere), the applicant refers to the "center-of-gravitational position of incident light". This phrase is unfamiliar to the examiner and is not clearly defined by the applicant.

In the claims, the applicant refers to "distributions of electric current density." It is understood that incident light causes current to flow in respective portions of the claimed photoelectric layer. It is sufficient to refer to these as "currents", "photocurrents", or "photoelectric currents". The phrase "distributions of electric current density" is redundant and makes the claim difficult to understand. Claim 2 is especially difficult to understand as currently written.

In claim 1, the applicant recites that "the photoelectric current subtracted by means of said resistance [is] adapted to flow into said resistance layer" (lines 22-23). Which current is adapted to flow into the resistance layer? Is it the predetermined current, the input current, or the difference current resulting from the subtraction step?

In claim 1, the applicant refers to "a portion" onto which light is input (lines 3 and 7). Later, the applicant refers to "the whole sensing sections altogether" (lines 16 and 21). The examiner presumes the latter phrase is meant to refer to a plurality of said "portions," but the as currently written claim lacks sufficient antecedent basis for "the whole sensing sections."

In claim 4, line 1, the word "device" is missing.

The examiner requests the applicant's cooperation in identifying other places, apart from the examples given above, where the specification and claims can be further clarified.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

#### ***Allowable Subject Matter***

Claims 1-4 objected due to minor informalities (see above), but would be allowable if rewritten to overcome said informalities. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record includes semiconductor devices used to capture an image. Idesawa (US 5,113,063) and

McElvain (US 6,208,006) provide examples of such devices. These devices variously employ photoconductive layers, dividing resistance layers, and output terminals. However, these devices lack a resistance that subtracts a predetermined current from currents generated in respective portions of a photoconductive layer, and wherein a difference current flows into a resistance layer and to current output terminals. The prior art also includes circuits comprising a plurality of photodetectors, the currents from which are subjected to a subtraction function performed by amplifier devices. (See Saunders (US 5,635,705) and Caiozza (US 5,396,280).) These devices lack the claimed resistance layer laminated on a photoconductive layer, as well as a resistance, which performs the subtraction function as claimed. The examiner will provide additional "Reasons for Allowance" as appropriate based on the corrected application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Meyer whose telephone number is 703-305-7955. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

DCM  
August 29, 2003

  
DAVID PORTA  
SUPERVISORY EXAMINER  
TECHNICAL CENTER 2800